REMARKS

Claim Amendments

Allowable claim 10 is rewritten in independent form. No change in scope is achieved.

The Rejection Under 35 USC § 103

The claims are rejected under 35 U.S.C. 103 as being unpatentable over Carson U.S. 3,470,090 in view of Sikonia U.S. 4,167,474 and Haag US 5,234,575.

None of the references alone or in any combination teach or suggest the act of homogenizing the catalyst in a mixing zone after the catalyst leaves the reaction zones and before the catalyst enters the regeneration zone.

The Office Action admits that Carson does not teach that once catalysts leave the reactors they are mixed and homogenized and then brought into the regeneration zone.

Sikonia teaches a process where catalysts are removed from two reactors, transported from each reactor into a single disengaging hopper. See column 12, lines 20-36. Some commingling or mixing of the catalysts will occur since they are placed into a single hopper, however homogenization of the catalysts coming from different reactors is not taught or suggested by Sikonia. The disengaging hopper's purpose is taught to be the separation of fines and dust-like particles. See column 12, lines 37-39.

Haag allegedly "teaches that catalysts are uniformly mixed in the system once the process reaches steady state in prior art processes that use a catalyst mixture of two catalysts." However, such is completely irrelevant to the invention herein. The cited passage refers to systems where a mixture of two catalysts is present. See column 2, lines 46-47, referring to "two types of catalyst." The two types of catalysts are described in more detail, for example, on column 3, lines 15-20, i.e., "as a first catalyst component, an amorphous cracking catalyst and/or large pore crystalline cracking catalyst ... and as a second catalyst component, at least one shape selective medium pore crystalline silicate zeolite catalyst." Compare this to claim 14 of the present invention reciting "catalyst of the same chemical type." Since there is only one type of catalyst (chemically) in the claimed process, the disclosure of a mixture of two different types of catalysts teaches nothing with regard to what one of ordinary skill in the art should do.

Also, for example, if one interprets such allegation to mean that all the catalyst in any part

of the system is uniformly mixed, then this reference actually teaches against the claimed invention herein. One of ordinary skill in the art would not find any motivation in view of this disclosure to homogenize a catalyst at any given point in the system that contains catalyst that is already "uniformly mixed."

Moreover, nothing regarding a problem that is solved by the claimed system is present in the systems discussed by Haag, i.e., the varying coke contents of catalysts coming from various reactors of a system. Instead, since uniform mixing is already present in the systems discussed by Haag, one would expect that such mixing is uniform with respect to all features of the catalyst, including coke content.

In the "response to arguments" section, the Office Action states that Sikonia simply states a separation step (while being silent on why it is desired or not desired) and the prior art (referring to Haag), teaches "that mixed catalyst systems are maintained uniformly mixed."

Sikonia is not silent on why a separation step is performed. Column 3, lines 10-15, recites "separating said particles to concentrate said first catalytic composite and said second catalytic composite; and ... at least periodically introducing said regenerated first and second catalytic composites into said first and second reactor systems, respectively." Thus, homogenization would be directly contrary to the objectives of Sikonia.

Also, Haag does not teach or suggest that mixed catalyst systems are "maintained uniformly mixed," if by "maintained" a positive step directed specifically to the purpose of mixing is meant. Instead, Haag teaches that "regardless of the catalyst introduction at start-up, once steady-state operation has been achieved, the two types of catalyst will become fairly uniformly mixed and will circulate throughout the system at or about the same rate." See column 2, lines 44-49. Thus, no mixing step or maintenance of uniform mixture is taught. Merely "catalyst will become fairly uniformly mixed" once steady state is achieved. There is no suggestion of a step of homogenizing after the reaction zone and before the regeneration zone.

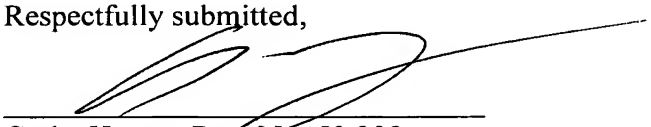
Additionally, when two or more references are cited to render a claimed invention obvious, there must be some teaching or suggestion to motivate one of ordinary skill in the art to modify one of the references in view of the other. Sikonia, as admitted, only teaches a system where the catalyst is separated after regeneration. Nothing therein teaches or suggests that separation should not be performed. To the contrary, such separation is taught to serve the

purpose of providing different catalysts to the two reactor systems. In all embodiments and even in the broadest description of the invention of Sikonia, a separation step is included. Even if a secondary reference were found that would actually teach a system where "mixed catalyst systems are maintained uniformly mixed" (which is not the case since Haag does not teach such), without more, such would be insufficient to support obviousness. Some reason or rationale as to why one of ordinary skill in the art would find it obvious to not separate in view of a secondary reference would have to be provided. Such is not provided in the present case. It is merely stated that Sikonia teaches separation and Haag teaches mixing, but no motivation is provided to combine these teachings in a manner which suggests the claimed invention.

Thus, in sum, as admitted, Carson does not teach the above discussed features of the claimed invention, Haag's teachings are either irrelevant or may even be contrary to the claimed invention, and Sikonia's teachings fall short by not teaching or suggesting the homogenization of the catalyst after their removal from the two reactors. Thus, the claimed invention is not obvious.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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